

and thoracic portions of the vagus. Irritation, however, of the splanchnic nerves in the thoracic cavity, above and below the diaphragm, showed that both the centrifugal and centripetal fibres are contained exclusively in the N. splanchnicus major sinister; the irritation of the peripheral end of which caused an enduring and considerable contraction of the spleen, while that of its central end only produced pain. Experiments on the corresponding nerve of the right side and on the lesser splanchnic nerve were without effect.

Direct electrical irritation of the left anterior spinal roots with a weak induced current, showed that contractions could be induced, between the third and tenth thoracic vertebra; but irritation of other anterior roots, above as well as below, gave on the left side, only negative results. It indicated also that the centrifugal splenic nerve fibres left the cord by several roots, since irritation of only one caused but a slight contraction.

THE STRUCTURE OF THE MEDULLARY NERVE SHEATH.—J. McCarthy, (*Quarterly Journal of Micr. Science*, 1875, 372, noticed in *Centralbl. f. d. Med. Wissensch.*) calls attention to a peculiar appearance of the medullary sheaths of nerve fibres, when treated with simple chromate of ammonia. It seems to be made up of little rods lying in a direction perpendicular to the axis of the fibre, and giving an appearance somewhat like that of striped muscular fibre. This must not be confounded with the striated appearance of the axis cylinder described by Frommann, Grandry, and others. The author calls attention, also, to the fact that Lautermann (*Centralbl.* 1874, 706) had likewise noted a striated appearance of the medullary sheath, after treatment with osmic acid.

THE STRUCTURE OF THE SPINAL GANGLIA.—Holl, *Sitzungsber. d. k. Akad. d. Wissensch.* Wien. 1876. (Abst. in *Revue des Sci. Medicales*.) The author seeks to solve the questions as to what is the structure of the posterior spinal ganglia; whether the same number of fibres enter and leave them, each cell being simply interposed on the track of a nerve; or whether the ganglion gives rise to new fibres. He chose the method of counting the fibres above and below the ganglion, to answer these queries, the same as that already employed by R. Wagner, who favored the view that the cells were bipolar. Hall found that there was no notable increase in fibres, after leaving the ganglion; the slight, apparent increase, he concludes to be an error in counting, and that no new fibres arise.

THE NUCLEUS OF THE FACIAL NERVE.—At the session of the Soc. de Biologie, July 1, (rep. in *Le Progres Medical*.) M. Duval gave a short summary of his researches on the disposition of the facial in the medulla. To reach its double nucleus, this nerve follows a very complex route, resembling in its windings that followed by the aqueduct of Sylvius. The first of these nuclei, the *genon* of the facial, is common to it and the motor oculi externus. The second, the true nucleus of the nerve, situated under the superficial layers of the circular fibres, is placed near the superior

olive of Lockhart Clarke. For the rest, M. Duval's description is very nearly that of Meynert, except that for the facial, as well as for the hypoglossal, he does not believe in the existence of direct radicular fibres.

RAPIDITY OF TACTILE SENSATIONS.—At the session of the French Acad. of Sciences, June 5, (rep. in *La France Médicale*) M. Claude Bernard presented a communication by M. L. Lalanne, of which the following abstract gives the principal points.

Let us suppose that we give to a flexible body, contact with which is not of a kind to injure the skin, a rapidly rotating motion around the arm, or leg, immovably fixed. Now, if the contact at each point is made within a sufficiently short time, shorter than the duration of the impression produced, then by analogy with the visual sense, we might expect there would be a continuous sensation of contact over the whole tract touched. M. Lalanne followed up this induction, and found it sufficiently correct for his purposes. The results of his experiments, thirty-three in number, are summed up in the following conclusions:

1. A continuous sensation is never felt with less than ten revolutions per second. The duration of the sensation produced is therefore not over one-tenth of a second, and in some cases it is less.
2. The shortest duration observed was from one twenty-fourth to one twenty-fifth of a second.
3. This minimum of duration varies in different individuals, and in different parts of the body.

THE SENSIBILITY OF THE DURA MATER.—At the session of the Soc. de Biologie, June 17, (rep. in *Le Progrès Médical*), M. Bochefontaine gave the results of experiments on the sensibility of the dura mater in animals anesthetized, or curarized. When we seize the dura mater with a pincette, we see movements produced, sometimes in the face, sometimes in the members. In the limbs they are generally, and sometimes exclusively, on the same side as that of the irritated portion of the membrane. These phenomena should undoubtedly be considered as reflex.

M. Lepine, in repeating the experiments of M. Brown-Sequard on the cauterization of the meninges, had arrived at analogous results; but instead of referring them like M. Brown-Sequard, to a direct action, he was of the same opinion as M. Bochefontaine, and included them among the reflexes.

THE NERVE TERMINATIONS IN THE ELECTRIC APPARATUS OF THE TORPÉDA.—The following is the substance of a recent communication to the Acad. des Sciences at Paris, by M. Ch. Rouget, as reported in *L'Union Médicale*.

"At the session of the 20th of last December, M. Claude Bernard presented a note of M. Ranvier, according to which the terminal plexus described and figured by Kölliker, by M. Schultze, and by Boll, does not exist; the termination of the nerves in the nervous portion of the electric plate is found by a series of branches ending in button-like enlargements, as has been shown before by Remak; a fine and regular granulation described by Remak and Boll, covers both branches and enlargements.